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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,552	01/04/2002	Min-Ho Jung	29925/37559	7132

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EXAMINER

ZALUKAEVA, TATYANA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 08/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

6

Office Action Summary

Application No.

10/037,552

Applicant(s)

JUNG ET AL.

Examiner

Tatyana Zalukaeva

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 12-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-29 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-11 in Paper No. 5 is acknowledged.
2. Claims 12-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was treated as made **without** traverse in Paper No. 5, since the Applicant has not pointed out wherein either (1) the reasons advanced by the Examiner to establish distinctiveness between the inventions as claimed and grouped or (2) the evidence of separate status, classification and/or search are in error. Therefore the restriction requirement is made **FINAL**.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

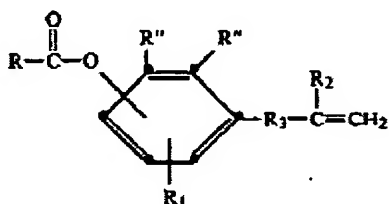
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuo (U.S. 5,324,788) .

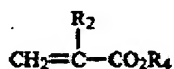
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Kuo discloses functionalized vinyl polymer prepared by polymerizing the following vinyl compounds: 5-80% of 4-acetoxystyrene



(b) about 0 to about 50 wt % of a styrene compound;

(c) about 20-90% of an acrylate monomer of formula



wherein R2 is hydrogen or methyl, R4 is C1-C12 alkyl substituted among others by a hydroxy group, thus making it a compound, which is hydroxyalkyl (meth)acrylate, which is the comonomer of the instant claim 1

(d) about 0-20% of acrylic acid. (see col. 2, lines 66, 68, col. 3, lines 1-64).

If all other components are 0% as allowed by Kuo, the copolymer consists of two comonomer units 4-acetoxystyrene and hydroxyalkyl (meth)acrylate.

Among preferred acrylate esters that serve as comonomer (c) hydroxyethyl acrylate and hydroxypropyl (meth) acrylate are clearly named. (col. 6, lines 58, 59)

Specific example 3 in col. 10 provides the synthesis of a polymer comprising units of 4-acetoxystyrene and hydroxyalkyl (meth)acrylate.

Furthermore, by the virtue of transitional phrase comprising "comprising", the claim is inclusive or open-ended and does not exclude additional, unrecited

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elements. See, e.g., *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) *Molecular Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986); *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 803 (CCPA 1981); *Ex parte Davis*, 80USPQ 448, 450 (Bd. App. 1948) (“comprising” leaves “the claim open for the inclusion of unspecified ingredients even in major amounts”).

The method for making a polymer is discussed in col. 5, lines 65-61 and specific examples 1, 4, 5, 6, wherein AIBN as initiator is used, and polymerization steps are readable on those of claims 8-10.

With regard to claims 2-7 Kuo clearly names the 2-hydroxyethyl (meth)acrylate, 2-hydroxypropyl (meth)acrylate as a preferred acrylate ester for component (D) in a copolymer, and the particular disclosing of the said compounds as evidence of particular envisionment and communication to a person of ordinary skill in the art.

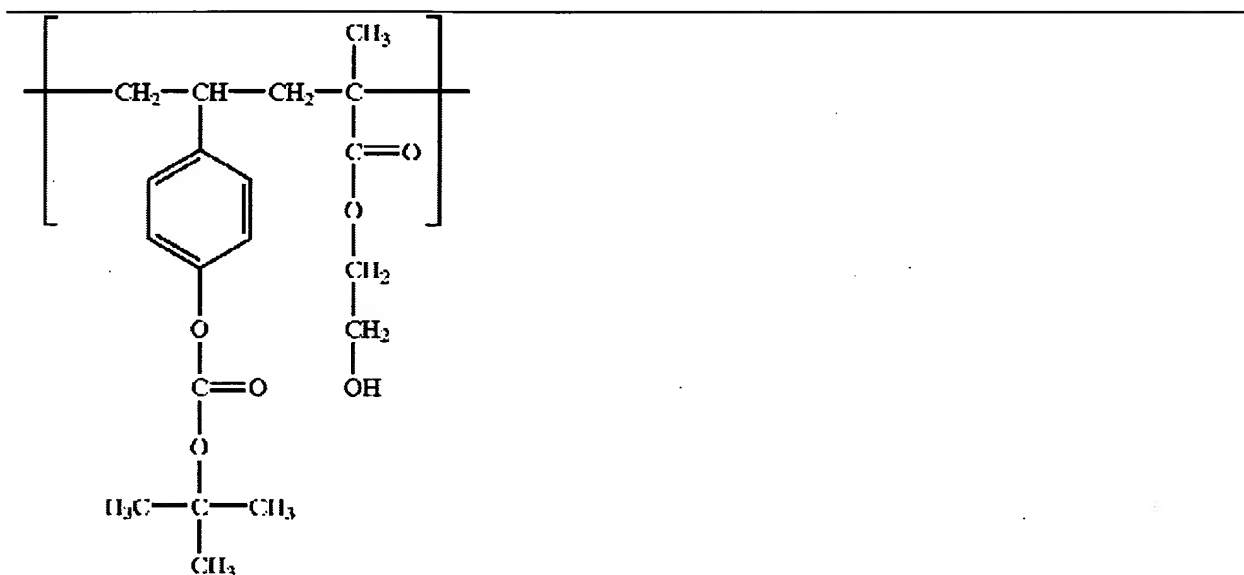
5. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

6. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kitson et al (U.S. 20030077538A1).

Kitson discloses a synthesis of polymer wherein **4-acetoxystyrene** (35.0 g) and **2-hydroxyethylmethacrylate** 8.424 g,) were dissolved in THF (100 g) and then purged

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for 10 min with nitrogen in the reaction wheel. (col. 10, lines 0163). The copolymer obtained is shown in col. 5,m and is a copolymer of the instant claims 1-7.



Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo.

Kuo does not specify the range of temperatures, as instantly claimed for polymerization, i.e. 50-90⁰C.

Kuo mainly uses the examples wherein polymerization mixture is heated to about 100⁰C. The upper limit of polymerization temperature is primarily defined by the boiling point of the solvent used. However, in his disclosure, Kuo teaches the same solvents, as instantly claimed, for instance, tetrahydrofuran (boiling temperature is 66° C) (col.6, lines 29-31), thus motivating a person skilled in the art to adjust the polymerization temperature and reflux (as taught by Kuo) the reaction mixture at the boiling temperature of suitable solvent. Therefore, a person skilled in the art at the time the invention was made would have found it obvious via routine experimentation with allowed solvents to adjust the temperature of Kuo and thus to arrive at the instant claim

11. Differences in temperature will not support the patentability of a subject matter

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encompassed by the prior art unless there is an evidence indicating such temperature is critical. Furthermore, since the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine optimization, *In re Aller*, 220 F.2d 454,456, 105 USPQ 233, 235 (CCPA 1955).

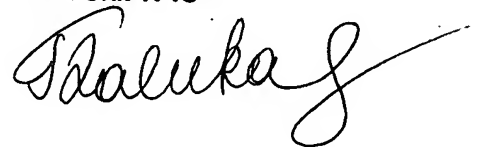
11. Other prior art cited in PTOL-892 shows the general state of the art and, although has not been used for rejections, is relevant to the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 305-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Tatyana Zalukaeva, Ph.D.
Primary Examiner
Art Unit 1713



July 30, 2003